

ART. VI.—THE RAPIDITY OF PERCEPTION OF
COLORED LIGHTS.

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WHEN light strikes the retina of the eye it produces in it a sensation of light. If this same light be transmitted through a prism we have various colored lights, which are usually denominated the seven colors of the spectrum. These colors give rise to different sensations dependent on the wave-lengths of these rays. According to the Young-Helmholtz theory the seven colors of the spectrum are resolvable into three colors called the primary ones—the red, green and violet, and that hypothetical fibres exist in the retina corresponding to these colors, being sensitive to different extents to the rays of light; whilst the theory of Hering is that the primary visual sensations are white, black, red, yellow, green and blue. The means by which different colors are perceived is not known, but judging from the eye of the owl and bat, which have no cones, these bodies are necessary for the perception of color, whilst the rods are not. The inability to distinguish colors existing in some persons is a well-known fact. It seemed to us that it would be a desirable object to determine which of the three colors frequently used in railroad signals was the quickest perceived. Lamansky saw the colors quickest as follows: first, green, then blue, and finally, red, whilst Kunkel saw red first, then blue, and last, green.

Method: The color-signals used by us were made by placing the various colored glasses in front of a lantern lighted up by a wax candle. The light was placed either in the room of the experiment at a distance of about eight feet, or about fifteen feet distant in an adjacent room. Then on one end of the cylinder of a Marey-Secretan apparatus was placed a circular

to perceive the colors, red, blue and green. Yet these small intervals may be sufficient at certain periods to be of value to the engineer or switchman.

Our experiments agree with each other, while they disagree with those of Kunkel, who perceived the blue before the green. The cause of this difference we are at present unable to state. The observations of Lamansky differ decidedly from those of all other observers. It took him three times longer to perceive the red than the blue. If the observations of Lamansky are correct, and we have no reason to doubt them, then not only is it necessary that railroad employees should be examined as to color-blindness, but those who are not color-blind as to their quickness in the perception of colors. It is quite probable as some men hear sounds, yet certain sounds only feebly, so the eye may see colors, but some of them in a feeble, uncertain manner.

ART. VII.—PERI-ENCEPHALITIS.

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M R. B. was the youngest of a family of seven children. His mother died of acute cerebritis, terminating in abscess; a maternal uncle and aunt both showed marked symptoms of dementia, late in life. These three were the youngest of a family of six children. His father died of cancer. All the members of Mr. B.'s family show a decidedly nervous temperament. One of his sisters has suffered more or less for several years with hysteria. A second sister has at the present time posterior spinal sclerosis. Until his fifteenth year, his health was always good. About that time he was thrown from a carriage, and received a severe scalp wound on the posterior part of his head, one-half inch to the left of the external occipital protuberance, from which he seemed to recover. A few months later, he had an attack of varioloid, so slight in degree that he was not confined to his bed. After this for some years he suffered with furuncles, and about the same